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D. I. 43. A. I. 41., P. 9. V. 5.

The color is dark reddish or chocolate brown.

A single specimen, for which there is no indication of locality, is in the Smithsonian Institution, and formed part of the collection of the former National Institute of the city of Washington. It is in rather poor condition, the caudal fin having been entirely lost. The length of the remaining portion is seven inches. I am disposed to believe that it was sent from Liberia.

I dedicate the species to my friend Prof. Henry, of the Smithsonian Institution, to whom I have been so much indebted for the privileges of studying the rich collections of the Institution, and especially of investigating the class to which the present species belongs.

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On the Synonymy and Systematic Position of the Genus *ETELIS* of  
Cuvier and Valenciennes.

BY THEODORE GILL.

In the second volume of the "Histoire Naturelle des Poissons," Cuvier and Valenciennes have distributed among two primary sections those species of their family of Percoids, which have ventral fins with five rays and inserted beneath the pectoral, and which have seven branchiostegal rays. Those sections are distinguished by the condition of the dorsal fin; the first having two dorsals, or a dorsal emarginated to its base; the second having a single dorsal.

In the section distinguished by the division of the dorsal fin, and in that subsection whose representatives have canine teeth mingled with others, Cuvier and Valenciennes have placed a generic type which they have technically characterized by the scarcely apparent dentelure of the preoperculum, the single opercular point, and the contiguous dorsals, and which was distinguished from *Lucioperca* (recte *Stizostedion*, Raf.) by the wholly villiform teeth of the palate, and the presence of two\* opercular spines. The *Etelis* is, however, not at all related to *Stizostedion*, but, as will be hereafter shown, belongs to a different family. It is a fish distinguished by its slender and elegant symmetrical form, the deeply-forked caudal, whose lobes are elongated, and acute, and especially by the remarkably large size of the eyes. The first dorsal of this fish is stated by Cuvier and Valenciennes to terminate at the base of the second. Only one species has been referred to the genus. That species is the *Etelis carbunculus*, of Cuvier and Valenciennes, and has been found in the archipelago of the Seychelles and at the Isle of France.

In the second section of the same division of Percoids, characterized by the single dorsal fin, and in the subsection distinguished by the possession of canine teeth, Cuvier and Valenciennes have placed the genus *Serranus*. To that group of the genus for which they have accepted Bloch's name *Anthias*, they have referred a species which they have named *Serranus oculatus*, and which is distinguished from all others of that section by the comparatively slight connection between the spinous and soft portions of the dorsal. This fish is likewise remarkable for its slender symmetrical shape, a deeply-forked caudal fin with prolonged and acute lobes, and also especially for its very large eyes. Of the dorsal fins it is simply said that the spines diminish in length from the third to the tenth, which is the last and the lowest.

On a comparison of the two fishes thus enumerated, it is found that they agree in all respects. The *Etelis carbunculus* and the *Serranus oculatus* have the same form of the head and body, the same form and structure of the fins, the same armature of the bones of the head, and the same large eyes, and the same dentition. There is no generic distinction between them whatever,

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\* *Etelis* has two opercular spines and not one as previously stated.

and their reference to two genera belonging to different sections is simply the result of a difference of interpretation of the same fact in the two cases, on account of their examination from isolated points of view. The dorsal has such a form that in one case it appeared to the learned French naturalists to be double, and in the other to be rather a single one. On the most casual examination of the plates of the *Etelis carbunculus* (pl. xviii.), and the *Serranus oculatus* (pl. xxxii.), it is evident that there is the closest external resemblance, which applies to the form of the dorsal fin as well as to every other feature of the external organization.

Deceived by the imposing authority of the great ichthyologists by whom the two species referred to were described, and by Dr. Günther's acceptance of the same opinion, after an examination of specimens of each, I had supposed that some generic difference must exist between those two species, which had not been rendered sufficiently clear by the authors. I had long noticed the great resemblance of the two species, but was willing to believe that they might belong to distinct genera as the squamation of *Etelis* was so represented as to remind one of a Holocentroid fish. I had only casually seen the *Serranus oculatus* in the infancy of my ichthyological studies, and the remembrance was not sufficiently vivid to enable me to certainly identify that species generically with the *Etelis carbunculus*. The recent reception at the Smithsonian Institution of a fine specimen from my esteemed correspondent, Prof. Poey, at once assured a certainty of the close affinity of the two species so often named.

My attention was further at once arrested by characteristics which previous observers had failed to express, and which rendered it certain that instead of being a *Serranus*, or even an *Anthias*, it was rather related to the *Lutjaninæ*, and especially to the genus *Platyinius*, and that it consequently belonged to a different family.

The learned Troschel, in a most valuable and suggestive article in the "Archiv für Naturgeschichte,"\* has first pointed out the true characters which distinguish the family of Sparoids as a natural group. Although I shall have occasion to dissent from the views of that naturalist respecting the limits of the family, eliminating some of the forms that have been referred to it, while I would combine others that have been distributed among different ones, it is with much pleasure that I add that the latter modifications are the consequence of, and naturally flow from the results of the investigations of Troschel, if we assign less value than he did to the dentition, and that the former are caused by the different views that have originated respecting the character of families since the period at which that ichthyologist wrote.

*Etelis* then is proclaimed to be a Sparoid on account of the reception of the maxillary bones beneath the preorbital bones, the existence of a dorsal groove in which the fin is folded, the presence of pointed axillar scales, and the acutely pointed pectoral and caudal fins.† By all these characters it is distinguished from *Serranus* and *Anthias* as well as the other Percoids. On account of all these characters it equally agrees with the family of Sparoids, and to that family it consequently must be referred. The artificial nature of that classification, which would place the *Lutjaninæ* in a distinct family from *Dentex*, and the allied genera, or which would equally separate the *Lutjaninæ* and the *Hoplopagriniæ*, and which at the same time would refer *Lutjaninæ* to the vicinity of *Serraninæ* on account of the presence of palatine teeth, is too evident to be commented upon, especially after I shall have added that there

\*Dr. F. H. Troschel "Ueber die Begrenzung der Familie der Sparoiden," in Archiv für Naturgeschichte, 15er Jahrgang. 1er band, pp. 382—386, taf. viii.

† The scales are more like those of *Sillago* than any others represented by Troschel, but the concentric striae in front of the nucleus are obsolete, and consequently have more of a Sparoid character.

is one genus (*Prionodes*, Jenyns) which appears to resemble in almost every respect the Serrani, notwithstanding its total destitution of palatal teeth.

I now proceed to give the synonymy and description of the genus *Etelis*.

Genus ETELIS Cuv. et Val.

*Etelis* Cuv. et Val., Histoire Naturelle des Poissons, tome ii. p. 127, 1828.

*Elastoma Swainson*, Natural History of Fishes, Reptiles, and Amphibians, vol. ii., pp. 168, 202, 1839.

*Hesperanthias Lowe*, Fishes of Maderia, 1843.

*Macrops Duméril*, Ichthyologie Analytique, p. 279, 1856.

*Serranus (Anthias)* sp. Cuv. et Val., Temm. et Schlegel, Rich., Poey.

*Centropristes* sp. Müll. et Troschel.

*Anthias* sp. Günther.

Body moderately compressed, slender, elongated and subfusiform, highest at the ventral fins; thence regularly attenuated to the caudal peduncle, which is slender and slightly constricted. Back in front of dorsal fin broad and flattened towards the occiput.

6

Scales rather large, (circa 50—) disposed in regular longitudinal rows,

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parallel with the lateral line. Each scale is about as high as wide, angulated behind, with the nucleus at the terminal third, before which the surface is polished, while there is a marginal muricated band. The radiating grooves are few (7–10), and the concentric striæ form very acute angle with the lateral edges, and are almost parallel with them.

Lateral line parallel with the dorsal outline, the sigmoidal curve being very slight.

Head compressed, oblong-conoid, flattened between the orbits, and with the snout gradually decurved to the symphysis. Forehead naked. Opercular bones and cheeks and covered with moderate scales. Preoperculum with a rather narrow naked limb, vertical behind, and very finely serrated. Operculum behind terminated by two acute spines separated by an oblique emargination. Preorbital bones naked, low and oblong or elongated.

Eyes very large and circular.

Nostrils on each side, double, approximated, with nearly simple margins.

Mouth rather large, with the cleft moderately oblique. Intermaxillary bones with short, posterior processes and little protractile. Supramaxillary bones terminating nearly under the centre of the pupil, covered on their exposed portions with scales. Dentary low and bent inwards beneath.

Teeth in a villiform band on each jaw, with a row of much larger distant ones in the upper jaw, and with a canine one each side in front; in the lower also, an external rim of rather larger ones, and with a small canine on each side in front, closing before the one in the upper jaw, and with a larger one farther backwards. Teeth of the vomer and palatine bones in a villiform band; that of the former angulated at the middle.

Branchiostegal rays seven.

Dorsal fin with the spinous portion with ten spines rapidly decreasing from the third, and with the first abbreviated; soft portion oblong, and nearly uniform in height, much lower than the highest spines, and much higher than the tenth or last one. Dorsal groove very conspicuous.

Anal fin smaller than the soft portion of the dorsal to which it is symmetrically opposed, with three moderate graduated spines, and with eight rays, the last of which are slightly prolonged.

Caudal fin deeply-forked, and with acute lobes, the upper of which is longest; the outer and basal portions of each lobe are scaly.

Pectoral fins moderate, acutely prolonged from the upperward rays.

1862.]

Ventral fins beneath the pectoral, acutely angulated and with small pointed axillar scales.

This genus is decidedly more nearly allied to *Platyinius*\* than to *Ocyurus*,† though the form of the body is perhaps more like that of the latter. It agrees with *Platyinius* in the general form of the head, in dentition, and in the armature of the opercular bones, but is distinguished from it by the slender form, the larger scales, the rapid decrease backwards of the dorsal spines, and in a minute degree by the rather larger eyes and mouth as well as the scaly supramaxillars.

Having demonstrated that there is no generic difference between *Etelis carbunculus* and *Serranus oculatus*, it follows that any name subsequently framed for the latter under the belief that it was the representative of a peculiar species must be suppressed.

Eleven years after the two species were first made known, William Swainson published the *Natural History of Fishes, Amphibians and Reptiles or Monocardian animals*, for the arrangement of which, a series of fantastic ideas was taken as the guiding principles of classification. Among the numerous genera or "subgenera" proposed by this author were one named *Elastoma*, based on the *Serranus oculatus*, and another called *Uriphæton* for which the *Serranus placton* of Cuvier and Valenciennes was taken as the type. Swainson in the "Synopsis of the natural arrangement of Fishes," regarded *Etelis* as one of the genera forming the cabalistic number of the second subfamily (*Serraninæ*) of Percoids, and by a happy accident approximated *Elastoma* and *Etelis* to which *Uriphæton* was added as a third subgenus. But he who might be seldom right, did not retain this fortunate juxtaposition of the first two types, but in the "general arrangement" interposed *Uriphæton* between *Elastoma* and *Etelis*, comparing the latter with *Uriphæton* and denying any palatal teeth to this representative of a family chiefly distinguished by the presence of teeth on the "vomer and palate." Swainson did not find this negation in the only work from which he could have derived his knowledge of this genus, and as in so many other cases, this error was the result of simple carelessness.

Some time afterwards, Mr. Lowe, an author as fortunate in his combinations as Mr. Swainson was unfortunate, proposed for the *Serranus oculatus* the new generic name *Hesperanthias*.

Still more recently, the elder Duméril, in his compilation of *Ichthyology* added still another synonym, giving to the same genus the name of *Macrops*.

Finally Dr. Günther, although acquainted with both the *Etelis carbunculus* and *Serranus oculatus*, did not perceive their affinity and preserved the respective places assigned to them by their early describers.

#### ETELIS CARBUNCULUS Cuv. et Val.

*Etelis carbunculus* Cuv. et Val., *Histoire Naturelle des Poissons*, tome ii. p. 127, pl. 18.

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\* Some time after the above article was completed, I had the pleasure to find that M Poey, by independent observations, had also perceived the close affinity of *Elastoma*, (*Etelis*) and *Platyinius*. In a letter which probably reached me at about the same time or little after one announcing my own results, was received by Poey, that gentleman writes as follows: "En mettant de l'ordre mes squelettes des poissons, je me suis aperçu que le crane de mes vorax (gen. *Platyinius*, Gill), est identique avec celui de l'*Elastoma oculatum*; tout-à-fait plat entre les deux yeux, et le bord orbitaire supérieur fortement strié en travers, &c." The other features shared in common, have also been noticed—"les memes dents (canines petites, &c.) prepercule dentele, quoique plus fortement dans le vorax, une épine plate à l'opercule, corps élance (moins dans le vorax) lobe supérieur caudal plus allongé (moins dans le vorax). D. X. 11. A. III. 8, dernier rayon, des nageoires verticales medianes prolongé, couleur générale rouge, l'oeil grand, &c."

*Platyinius* Gill, Proc. Acad. N. S., Philad. Type *Mesoprion vorax* Poey.

† *Ocyurus* Gill, Proc. Acad. N. S., Philad. Type *Mesoprion chrysurus* C. V.

*Etelis carbunculus* *Günther*, Catalogue of the Acanthopterygian Fishes, &c., vol. i. p. 79.

D. X. 11. A. III. 8. Scales 50—<sup>6</sup>\* (*Günther*.)  
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The color is a brilliant red in life, with shining golden lines along each row of scales.

*Habitat*.—Seychelles and Isle of France (Cuv. et Val., *Günther*).

*ETELIS OCLATUS* Gill ex Cuv. et Val.

*Serranus oculatus* *Cuv. et Val.* Histoire Naturelle des Poissons, tome ii. p. 266, pl. 32. *Ramon de la Sagra*.

*Hesperanthias oculatus*, *Lowe*.

*Centropristis oculatus* *Müller and Troschel*.

*Macrops (aculeatus)* *Duméril*. Ichthyologie Analytique, p. 279.

*Anthias oculatus* *Günther*. Catalogue of the Acanthopterygian Fishes, &c. vol. ii. p. 92.

D. X. 11. A. III. 8. Scales 50—<sup>6</sup>—  
14

Upper half of body rose, lower half straw yellow.

*Habitat*.—Caribbean sea.

To this species Messrs. *Lowe*† and *Günther* have referred a representative of this genus found at Maderia, and *Temminck* and *Schlegel*‡ another discovered at Japan. I do not think that it is at all certain that those specimens belong to the present species, and cannot, therefore, decisively refer them to the synonymy.

*ETELIS CORUSCANS*, Val.‡

*Etelis coruscans* *Val*, Comptes Rendus, tome liv. p. 1166, June 9, 1862.

Body longer, head shorter, teeth smaller, dorsal spines shorter and caudal longer than in *E. carbunculus*.

*Habitat*.—Isle of Bourbon.

After an interval of a third of a century, Valenciennes, again returning to the genus *Etelis*, has added a supposed new species, only distinguished from the *E. carbunculus* by the comparative characters here cited. He has failed to recognize the affinity of *E. oculatus*.

#### Description of a new Genus and Species of PHOLADIDÆ.

BY GEO. W. TRYON, JR.

Subfamily JOUANNETINÆ, Tryon, 1862.

DIPLOTHYRA, Tryon.

Shell with a double accessory valve; the principal plate placed directly over the umbones, with a smaller anterior one adjoining.

This genus is allied to *Martesia*; but differs in the double or divided dorsal valve.

\* Cuvier and Valenciennes assign about sixty scales to the lateral line and seventeen or eighteen rows to the insertion of the ventrals. The former number includes the small caudal scales.

† *Hesperanthias oculatus* *Lowe*. Fishes of Maderia. This work is at present inaccessible to me.

‡ *Serranus oculatus* *Temm. et Schl.* Fauna Japonica, Pisces, p. 5.

§ The Comptes Rendus containing the diagnosis of *E. coruscans* was received after the transmissiō of the above article to the Academy.

1862.]